

Application No.: 09/530,629  
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## ABSTRACT

The electromechanical transducer consists of a stator [(1)] having a plurality of inner pole pieces [(2)] that describe a helix and a rotor having magnetic poles that similarly describe a helix. The rotor is constrained, for example, by [means of] a spiral spring, so that the rotor can only move axially, no rotary movement is permitted. Each pole piece [(2)] of the stator is connected to a radial core [(3)] about which respective coils [(5,6)] are wound. Thus, the coils [too] also describe a helix about the axis of the stator [(1)]. The structure of the transducer results in the magnetic circuit having a helical component that contributes to the axial movement of the rotor. [The transducer benefits from many of the advantages of rotary motors whilst providing linear movement.]